## Global Environment and Greenhouse Gases from Energy Systems: Estimation and Mitigation (GEM 2020)



"We cannot manage what we cannot measure"

- Lord Kelvin

#### Relevance of the Course

India being a party to UNFCCC (United Nations Framework Convention on Climate Change) has the obligation to submit GHG inventory through periodic national communications. India's current rise in  $\rm CO_2$  emissions is strongly linked to the coal mining vis-à-vis supply rates. Coal production has doubled since 2000 to 730.25 MT in 2018-19. The country plans to extract a billion tonne of coal by 2024 with a substantial enhancement of coal power capacity that is in pipeline. This has direct implications for India's greenhouse gas emissions. Likewise, oil and natural gas production, processing, distribution and consumption especially in transport sector also constitute a key source category. Therefore, deep decarbonisation in the energy sector is associated with transitions ranging from promoting efficiency along the entire fossil fuel chain and shifting from coal to alternative no or low carbon energy resources (such as nuclear, hydel, coalbed methane, shale gas and renewables) for varied air pollution benefits that ultimately pave a seamless energy transition to the Government of India's thrust on cleaner resources.

Paris Agreement aims at achieving a balance between sources and sinks of greenhouse gases on the basis of equity for sustainable development and poverty alleviation through emission reduction. The question thus arises – could the visions of providing access to energy to all and stabilizing GHG emission be reconciled by adapting carbon management and sustainability? This short-term course has been designed to answer this important question and also to discuss and deliberate various intricacies of this issue.

#### Who should attend this course?

The short-term course designed by the (CSIR-Central Institute of Mining and Fuel Research (CSIR-CIMFR), Dhanbad and The Mining, Geological & Metallurgical Institute of India (MGMI), Kolkata for the practicing engineers, technical personnel/individuals and researchers/academicians involved in planning and execution of coal mining, oil and gas sector, transportation, energy generating and supply industries.

#### Major Areas to be covered

This course would deal with methodologies, measurement procedures and best practices for preparing GHG inventory for energy sector through interactive sessions and plant/field visits. Attempts will be made to cover all important topics including mitigation options as mentioned below:

- Climate change: issues and business strategies
- Greenhouse gas emission scenario from energy system
- Regulatory framework for measurement and mitigation of GHG emissions
- CO<sub>2</sub> emissions from coal combustion in energy and manufacturing Industries
- Fugitive methane emission from coal mining and handling activities
- Enhancing mining efficiency through emission reduction
- GHG emissions from transport sector (Road, Rail, Aviation, Navigation)
- · Emissions from oil and gas systems
- Unconventional gases resources to bridge the gap
- Energy efficient combustion technologies
- Carbon trading mechanisms

#### **Resource Persons**

Distinguished experts from IIMs, Technical Universities, Senior Scientists of CSIR-CIMFR, Dhanbad, Senior Officials of the Ministry of Environment, Forests and Climate Change, Ministry of Coal, some NGOs and MGMI members shall be delivering lectures. The speakers have been variously responsible for India's global climate negotiations, preparation of GHG inventory for the UNFCCC process, participation in methodology and assessment reports of the IPCC and other white papers, actual on-the-field implementation of translational energy technologies and mentoring the next generation of experts in this field.

#### Programme

- 20th 21st January 2020 (Day 1-2): Kolkata
- 22nd January 2020 (Day 3): Industrial Visit
- 23rd 25th January 2020 (Day 4-6): CSIR-CIMFR, Dhanbad

#### **Important Date**

Last date of Registration: January 15, 2020, 5.00 PM

#### Course Fee

- Registration fee per participants from Industry: INR 30,000.00+18% GST (INR 5,400) = INR 35,400.00.
- Registration fee per participants from Academia/Research Institute: INR 15,000.00+18% GST (INR 2,700) = INR 17,700.00.
- Interested Student/ Project Fellow participants may also register subject to availability of seats.

#### **Sponsorship**

With the presence of industry and academia experts, this event promises to have excellent outreach opportunities to professionals working in Coal, Oil & Natural Gas, Power Utility Companies and allied areas. We would be grateful for your generous sponsorship for the event in the following categories

Kindly note that 18% GST will be added as per GOI rules for all sponsorship categories.

Platinum Sponsor	INR 2,00,000	Four Complimentary Participants + Logo on the Backdrop
Diamond Sponsor	INR 1,00,000	Two Complimentary Participants + Logo on the Backdrop
Gold Sponsor	INR 50,000	One Complimentary Participants + Logo on the Backdrop

#### How to Apply?

Applicants are requested to send the hard copy of the filled-in Registration form along with the course fee in the form of DD/Cheque drawn in favour of "The Mining, Geological and Metallurgical Institute of India" or through NEFT/RTGS or through Bank transfer. The bank details are given below:

#### **Bank Details**

Name of Beneficiary	THE MINING, GEOLOGICAL & METALLURGICAL INSTITUTE OF INDIA
Bank Name	STATE BANK OF INDIA
Branch Name	SALT LAKE ELECTRONICS COMPLEX
Bank Branch Code	9985
MICR Code	700002193
IFSC Code	SBIN0009985
Bank Account Number	10224931340
Account Type	CURRENT

GSTIN No. of MGMI: 19AAATT7390J1ZV

PAN No. of MGMI: AAATT7390J

#### Accommodation

- Accommodation and Local Transport in Kolkata may be arranged by MGMI on individual payment basis.
- Guest House accommodation on chargeable basis may be provided in CSIR-CIMFR, Dhanbad or IIT (ISM) Dhanbad campuses.
- Participants may also arrange their accommodation in hotels in Kolkata and/or Dhanbad. MGMI and CSIR-CIMFR will be happy to provide assistance for booking of hotels etc.

# Short Term Course cum Workshop on Global Environment and Greenhouse Gases from Energy Systems: Estimation and Mitigation (GEM 2020)

Jointly Organized by

CSIR-CIMFR | Dhanbad and MGMI | Kolkata

#### REGISTRATION FORM

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Signature of Sponsoring Organization with Seal	Signature of the Participant			
Oate				

To be forwarded to:

The Mining, Geological and Metallurgical Institute of India

#### About the Institutes

# CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH (CSIR-CIMFR), DHANBAD

A constituent laboratory under the aegis of Council of Scientific and Industrial Research (CSIR), New Delhi, aims to provide R&D inputs for the entire coal-energy chain

encompassing exploration, mining and utilization. The laboratory also strives to develop mineral based industries to reach the targeted production for country's energy security and growth with high standards of safety, economy and cleaner environment. In view of the National Missions declared by the Government of India, CSIR-CIMFR has re-aligned its vision, missions and policies and also



redefined targets for short and long terms. This would promote rapid sustainable national techno-economic growth with equal emphasis on self-sustenance. CSIR-CIMFR is strategically located in the Damodar basin known for its rich coal deposits and a host of several large mineral based industries in the town of Dhanbad, Jharkhand known as the coal capital of the country.

#### THE MINING, GEOLOGICAL & METALLURGICAL INSTITUTE OF INDIA, KOLKATA

The Mining, Geological and Metallurgical Institute of India (MGMI) is one of the oldest non-profit earning National Professional organizations in the world established in 1906

with the mandate of promoting the study of all branches of mining and of mineral occurrences through dissemination of information for facilitating the economic development of the mineral industries in the country. The Institute is having its Headquarter and one of its branches in Kolkata and 18 branches throughout the country. The institute has been recognized as a Scientific and Industrial Research



Organization by the Department of Scientific and Industrial Research, Government of India. The Institution encourage, assist and extend knowledge and information connected with Mining, Geology and Metallurgy by promotion of lecturers, discussion or correspondence, holding conferences and training programmes, publication of Journals, Periodicals, Books and Transactions etc.

### **Address for Correspondence**



The Director

Kind Attention: Mr. Dilip Kumbhakar, HoS, HRD CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH (CSIR-CIMFR)

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January 20-25, 2020

Jointly Organized By



CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH Barwa Road, Dhanbad 826 015 Jharkhand



THE MINING, GEOLOGICAL AND METALLURGICAL INSTITUTE OF INDIA GN-38/4, Sector V, Salt Lake Kolkata 700 091, West Bengal

Under CSIR Integrated Skill Initiative

